

PASTORIA ENERGY FACILITY (99-AFC-7C)
Petition for Conversion from Aqueous to Anhydrous Ammonia
Hazardous Materials Management Staff Analysis
Prepared by Rick Tyler

PROPOSED MODIFICATION

The original application for certification for the Pastoria Energy Facility (99-AFC-7C) proposed the use of aqueous ammonia to control facility emissions. Staff evaluated use of aqueous ammonia at the facility and concluded that its use did not pose a potential for significant impacts on public health. Subsequent to approval of the AFC the facility was sold to new owner, who filed a petition on June 28, 2001, to amend the original decision to allow use of anhydrous ammonia.

LAWS, ORDINANCES AND REGULATIONS AND STANDARDS (LORS)

There are no new LORS associated with this amendment not considered staff's original analysis of the Pastoria Energy Facility combined cycle project.

ANALYSIS

This analysis addresses the potential for significant impacts that would result from use of anhydrous ammonia instead of the safer aqueous form. The use of the anhydrous form of ammonia does not significantly increase the risk of accidental release. It does however, typically increase the potential for impacts significantly in the event of a release.

The petition to amend the Pastoria Energy Facility provided an analysis of potential for impact of an accidental release. Staff has reviewed the analysis and concurs with the modeling results. This modeling indicates that the maximum potential exposure at the nearest residence (4.5 miles northeast of the facility) would be less than 75 PPM. This level of exposure would not present a significant risk to public health or safety. However, there is a gravel mining operation about 1000 ft southeast of the Pastoria facility. There are approximately 27 employees at this facility during the summer peak period and about 10 during off peak periods during the winter. The maximum potential exposure at this facility in the event of a worst case impact would pose a potential for serious injury or fatality.

The owner proposes to use double-walled tanks to contain the anhydrous ammonia. It is staff's opinion that the risk of accidental release from a storage vessel such as the one proposed is below 1 in 1,000,000 per year of operation. In addition, wind roses provided in the petition indicate that low wind speeds and F or D stability (meteorological conditions associated with worst case impact) in the direction of the gravel mine occur about 2% of the time.

Staff has prepared revisions to the existing Hazardous Materials Management Conditions of Certification, **HAZ-2**, **HAZ-3**, and **HAZ-4**, to address the conversion to anhydrous ammonia.

CONCLUSIONS AND RECOMMENDATIONS

Based on this analysis, staff concludes that the risk of a worst case impact is insignificant, and recommends approval of the proposed modification subject to the following changes to the existing Conditions of Certification.

CHANGES TO EXISTING CONDITIONS OF CERTIFICATION:

Added text is underlined, deleted text is shown as ~~strikethrough~~:

HAZ-2 The project owner shall provide a Business Plan and Risk Management Plan to the Kern County Environmental Health Department and the CPM for review and approval. The RMP shall be submitted to the CPM at the time the RMP is first submitted to either Kern County or the U.S. Environmental Protection Agency (EPA). The project owner shall reflect all recommendations of the Kern County Environmental Health Department and the CPM in the final document.

A copy of the final RMP, reflecting all comments, shall be provided to Kern County and the CPM once it is deemed complete.

Verification: At least 60 days prior to handling reportable quantities of any hazardous material the owner shall provide a copy of a final Business Plan approved by Kern County to the CPM. At least 60 days prior to delivery of ~~aqueous~~ anhydrous ammonia to the PEF project the owner shall provide the final RMP accepted by Kern County, to the CPM for approval.

HAZ-3 The project owner shall develop and implement a safety management plan for delivery of ammonia. The plan shall include procedures, protective equipment requirements, training and a checklist.

Verification: At least sixty days prior to the delivery of ~~aqueous~~ anhydrous ammonia to the facility, the project owner shall provide a safety management plan as described above to the CPM for review and approval.

HAZ-4 The ~~aqueous~~ anhydrous ammonia storage tanks shall be constructed to specifications at least as protective as those in ~~American Petroleum Institute (API) 620~~ American National Standards Institute (ANSI) K61.1. The storage tank shall be double walled design or be within a secondary containment designed and operated to hold the volume of precipitation from a 24-hour, 25-year storm event plus 100 percent of the capacity of the largest tank within its boundary.

Verification: At least 60 days prior to delivery of ~~aqueous~~ anhydrous ammonia to the site, the project owner shall submit final design drawings and specifications for the ammonia storage facility to the CPM for review and approval.